

## Penny Pincher's Greenhouses

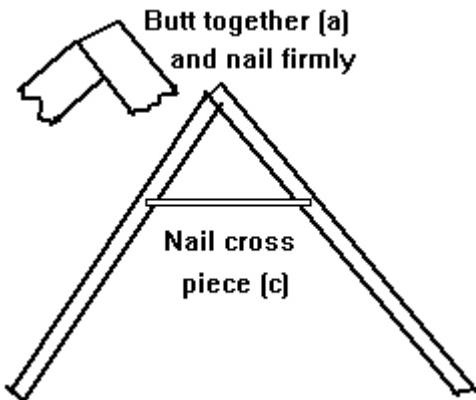
If you can't do without a garden greenhouse, but are a little short of time, space, or money, here's three simple and low cost ideas to satisfy your gardening itch. It takes very little in the way of a structure to allow for a small area to protect plants, start seedlings, or keep a winter garden of lettuce, cabbage or onions.

### Greenhouse 1 and 2

This design is 6 feet by 6 feet, but you can vary it suit your space and needs. If you have an old swing set frame that long since lost the swings, you can even use that and just tape the construction plastic over it. Here's all you need: 4 2x4s cut to 6 ft., 5 8 ft. 1x2s cut to length as you build, a 1 lb. box of 16d coated sinker nails, a handful of 8d nails,  $\frac{1}{4}$  inch staples and stapler, and a roll of 6 mil construction plastic.

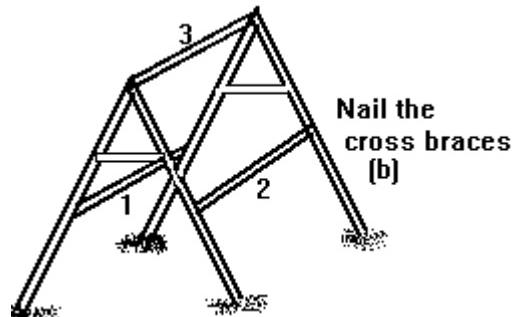
#### Step 1

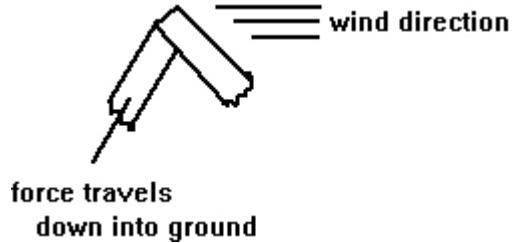
Construct two angular frames by butting two pieces of the 2x4s together, nailing together at the apex and using a piece of 1x1 or 1x2 as a cross-brace:



#### Step 2

Mark where posts land on ground and set in at least 6 inch holes. Now nail three 1x2s to form a cross brace.





Important: make sure that the prevailing winds strike at either end or as per the diagram, ensuring the butt joint is identical:

### **Step 3**

Cover with construction plastic and staple about every 6 inches. Use bricks or soil to hold down the bottoms. Stretch while stapling so water will shed and not collect and ruin your greenhouse. Open an entrance in one end with a box cutter. Hang an old blanket or comfort over the opening you've cut to provide a draft free door like a teepee. In very windy weather, you may want to attach this to the ground with some 1x2 stakes.

The result is utilitarian, but effective. When properly braced, this simple house can weather the Texas winds. If it's a cheap and reliable form of germination you're after this is one way. And when you've finished with it just remove the plastic for summer and use the frame as a growing trellis by adding a piece of lattice or two!

### **Greenhouse #2**

This is a variation on the A-Frame unit above, except you might just have one already built and standing unused in your own backyard. Many people have a children's swing set in their backyard, if not, no doubt one of your neighbor's will be happy to have you remove an unused one from their backyard. It doesn't take long to remove all of the exposed screws and various pieces of hardware on the tubular framework to allow for a 4-6 mil plastic cover to be laid over the entire framework. Be sure to leave a foot or two of overhanging plastic around the bottom. The plastic can be held in place by piling sand or dirt on the overhanging plastic around the base of the unit. Cut a vertical slit in the middle of one of the long sides of plastic, this becomes your door. Close it back up with a couple of metal binding clips or heavy kitchen bag clips. The existing A-frame shape with the end bar crosspieces provided a sturdy frame and it didn't cost a penny! Hanging plants can be hung from the overhead beam, and a raised growing shelf can fit between the end pieces. Spray paint the frame and it can look pretty.

### **Greenhouse #3 – Hay Bales**

Take 4 bales of hay and placed them into a square. Now you have a nice little hay house without a roof. Get an old glass storm door, or surplus 15 light wooden door and you have an excellent insulated cold frame! Just perfect for growing little. A great place to get this part is a Habitat for Humanity Restore, which sells old doors of all kinds and it's for a good cause, as well!

You might remember when sun hits an enclosed place, the temperatures soar quickly (like an car with the windows closed). Depending on the temperature outside and if I had much sun, I propped up the top with rocks on one side in the morning, propped it up higher with a couple of 2 x 4's cut to equal lengths, or removed the door completely. At night, I laid an old blanket on top of the storm door to keep the heat in.

I used this temporary and easily moved greenhouse for many of the plants that come along slowly, like peppers. I kept it closer to the house in colder times and have moved it closer to the garden when I start to work there. I have grown lettuce to harvest by early April.

Getting some additional heat is easy. One old fashioned way is to use 50-gallon drums, paint them black or cover them with black plastic. Fill the drums with water. The black absorbs the heat into the water during sunny days and radiates the heat back into the greenhouse during the night. These drums also can be used as a base for benches. Some wooden pallets or pieces of wood placed on top are just perfect for your plants. The water is also wonderful because it becomes tempered and you are not shocking your seedlings with 50-degree water. Think about how much heat is required to bring your soil temperatures back up to 65 degrees when we cool it down to 50 degrees each time we water.

Another heat idea is to run heated pipes or hoses under your benches. This can come from an old water heater or boiler. The plants only need heat in their soil base, not their leaf canopy. The heat that is at the top of your greenhouse is a waste. Applying heat to the soil is the most cost efficient and most effective growing method there is. So put on your creative scavenger hats and see what you come up with.

Another great way to ventilate in summer is to remove the plastic and replace with bird netting available at most nurseries. This really helps in a hot climate like Florida or Texas.

I am sure you will think of many things you can do with these low cost greenhouse options. Good gardening!